R E P O R T R E S U M E S

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A CENTER FOR DEMONSTRATING THE TEACHING OF READING TO STUDENTS IN GRADES 7-12.

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DESCRIPTORS- *READING IMPROVEMENT, *INSERVICE TEACHER EDUCATION, *SECONDARY GRADES, *READING CENTERS, *INSTRUCTIONAL FILMS, FILM PRODUCTION,

THE JAMESVILLE-DEWITT JUNIOR-SENIOR HIGH SCHOOL AND THE READING AND LANGUAGE ARTS CENTER, SYRACUSE UNIVERSITY, JOINTLY ESTABLISHED A DEMONSTRATION CENTER AT JAMESVILLE-DEWITT FOR THE PURPOSE OF IMPROVING READING INSTRUCTION IN GRADES SEVEN THROUGH 12. THE CENTER OPERATED FROM SEPTEMBER 1963 THROUGH JUNE 1966 UNDER THE SPONSORSHIP OF THE PROJECT ENGLISH PROGRAM, UNITED STATES OFFICE OF EDUCATION. THE CENTER SERVED TWO PURPOSES. AN ALL-SCHOOL READING PROGRAM WAS ORGANIZED AND MADE AVAILABLE FOR OBSERVATION, AND A FILMED INSERVICE COURSE ON READING INSTRUCTION IN SECONDARY SCHOOLS WAS PRODUCED, FIELD TESTED, AND REVISED. THE RESULTANT 10 MOTION PICTURE LESSONS WERE THE FOLLOWNG--ORGANIZING READING PROGRAMS, ANALYZING READING ACHIEVEMENT, THE HANDICAPPED READER, VOCABULARY DEVELOPMENT, DEVELOPING COMPREHENSION SKILLS, READING TO REMEMBER, THE LIBRARY AND THE READING PROGRAM, DEVELOPING SKILLS FOR READING LITERATURE, EFFICIENT READING, AND REPORT FROM THE READING COORDINATOR. MANUALS, ONE FOR EACH OF THE 15 SESSIONS COMPRISING THE COURSE, ACCOMPANY THE FILMS. AN INCREASING DEMAND FOR THE FILMS AND THE IMPROVEMENTS APPARENT IN READING INSTRUCTION IN THE CLASSROOMS OF TEACHERS WHO HAD OBSERVED AT THE CENTER TESTIFY TO ITS SUCCESS. THE PROCEDURES USED IN ESTABLISHING THE CENTER AND IN PRODUCING THE FILMS ARE DESCRIBED. A DISCUSSION ENTITLED "TEACHING READING AND PHYSICS SIMULTANEOUSLY" IS APPENDED. (RH)

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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

A Center for Demonstrating the Teaching of Reading to Students in Grades 7-12

Project No. D-068
Contract No. OE-3-10-125

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INTRODUCTION

Problem

The Demonstration Center described in this report provided an example of how a public school and a university can share responsibility for continuing teacher education, using secondary school reading instruction as the focus of attention. From 1963 to 1966, faculties from the Jamesville-DeWitt Junior-Senior High School and the Reading and Language Arts Center, School of Education, Syracuse University, co-operated in an effort to improve reading instruction in grades 7 through 12, giving special emphasis to the development of in-service programs.

Interest in teaching reading in the secondary school is growing across the United States. Teachers and administrators are asking for opportunities to observe successful programs in action and are seeking ways to provide in-service education aimed at improving the competence of their staff in teaching reading. The Demonstration Center at Jamesville-DeWitt was organized to meet these two needs; that is, to provide a demonstration reading program, and to produce a series of motion pictures to serve as the nucleus of an in-service program in reading instruction for secondary school teachers and administrators.

In the course of achieving these two aims, both of the co-operating institutions derived immediate benefits. The university personnel found that their study of secondary school reading programs was greatly illuminated by working with teachers in their classrooms and that their campus methods courses and in-service workshops benefited

accordingly. The staff at Jamesville-DeWitt, studying their students' needs and exploring their own resources for teaching reading, were able to call on the university staff for specific and immediate help.

This final report describes the Demonstration Center and its product. It presents a synopsis of an in-service program centered on ten films and accompanying manuals, which has already had wide publicity and is increasingly in demand. This report does not present research findings since a demonstration, not research, was the objective of the Center. Indeed, the major part of a report on the Syracuse University--Jamesville-DeWitt Demonstration Center must be found in the ten motion pictures and fifteen related manuals, submitted herewith.

Background

Although the need for teaching reading in the secondary school has long been recognized, the number of teachers prepared to teach reading at this level remains small. Even in curriculum areas like English most directly related to reading instruction, one finds that a high percentage of teachers have had little or no formal course work in reading instruction.[1] One can safely assume that teachers from other disciplines are similarly unprepared.

Courses in reading instruction in secondary school, which have been offered for many years, are taken principally by those who intend to specialize in the teaching of reading. Two reasons why secondary teachers in general have not taken these courses are:

[1]Squire, James, National Interest and the Teaching of English, Champaign, Illinois: National Council of Teachers of English, 1964.

(1) reading instruction is viewed as a specialty and therefore not directly related to teaching in the various disciplines: (2) courses in methods of teaching reading have not been mandatory for all secondary teachers. The result is that reading instruction in secondary schools has been severely limited.

Now that secondary school administrators and faculty realize the need for in-service programs to make up for this lack of pre-service preparation, there is an increasing demand for consultant services in reading and university-sponsored courses. This demand has been accentuated by state and federal programs directed at the educationally disadvantaged. It is evidenced by the large number of applications for N.D.E.A. Institutes and Experienced Teacher Fellowship Programs related to reading instruction at the secondary level.

How to meet this rising interest has become a question of major concern since university resources are limited at best and in many cases inaccessible. In place of the "outside consultant," or the university-sponsored extension course or workshop, there must be a practical methods course which can be offered in a local school setting where participants have opportunity for immediate verification of theory in their own classes; a methods course which not only explores theory, but also translates that theory into observable practice; and one which is attuned to the instructional needs of the subject-area specialists as well as reading teachers.

To meet these needs, the staff of the Reading and Language Arts Center at Syracuse University proposed an in-service course on film, a course so structured that it could be offered in local schools under the direction of local personnel. Developed within a local school,

cooperatively produced by secondary school and university personnel, such a "packaged course" would be insured of practicality and immediacy.

Objectives

The production of the filmed in-service course in a local school setting, then, was the major objective of this project. Specifically, the project set the following objectives:

(1) to develop a series of films for use in methods courses in the teaching of reading in the secondary school;

(2) in the course of producing these films improve instruction in reading in the developmental program of the demonstration school;

(3) Refine materials and methods for teaching pre-service and in-service teachers of reading in the junior and senior high school;

(4) provide a school setting where practices in teaching, in classroom management, the utilization of staff, and the role of apublic school in teacher education can be viewed by visitors from comparable school systems and from teacher education institutions.

METHODS

Demonstration Center

The first step was to identify the school which was to serve as the Demonstration Center. Jamesville-DeWitt Junior-Senior High School was selected. This school, located in DeWitt, New York, serves two communities: Jamesville, a "rural suburb" of Syracuse, and DeWitt, an "urban suburb." The population in grades 7-12 is approximately 1,400 students. Already established here was a program for teaching reading to all 7th graders in separate reading classes and to those 8th and 9th graders who required a continuation of this instruction. Reading was offered as an elective to college-bound students in grades 11 and 12.

Because of the administration's interest and also the good work of the reading teachers, the faculty was well aware of the need for providing reading instruction at the secondary level. Many subject-area teachers were ready to consider their role in providing reading instruction as part of their course work.

A project coordinator was added to the Center staff and was provided with an office in the school. There he served as a reading coordinator for the school as well as coordinator of the project. His task was to extend the program from its current structure, separate reading classes, to include all grade levels and subject areas.

The coordinator initiated contact with subject-area teachers, expressing willingness to help them in any way that would improve their students' ability to handle effectively the reading materials required in their subjects. Several teachers used suggestions and materials

provided by the coordinator. Based on their success, non-credit seminars were established for teachers interested in exploring in more detail some of the procedures advocated by the coordinator. Several of the teachers became committed to this kind of instruction and the school district, outside of the project budget, provided funds for summer curriculum work. They produced lesson plans and materials consistent with new approaches that they were finding successful.

During the second year of the project the coordinator conducted a formal course for local in-service school credit. All teachers interested in participating attended. Between the seminar and the course, approximately 75 per cent of the faculty participated in in-service study.

The in-service courses provided the basis for concurrent as well as subsequent work with individual teachers. During this time the coordinator gave demonstration lessons, observed instruction, consulted with teachers on specific problems, and developed materials appropriate for use in various subject areas. On an informal basis, the in-service program continued this personal contact with individual teachers.

Film Production

Production of the films required close cooperation among many personnel. The project directors, the project coordinator, and the film director and producer conferred at considerable length on the content of the films. Through this conferencing, a script was drawn up for each film. The scripts outlined the content of the film and were the sources from which the shooting scripts and the narrations

for the films were drawn.

Using this shooting script, the film director and project coordinator established the sequence in which the various scenes would be filmed. Teachers and students who were to appear in the various scenes were identified and informed of the roles that they were to portray. A schedule was established for filming the sequence and the filming was completed. Work copy of the filming sessions was obtained and edited. This edited copy was returned to the film laboratory for the final print. When that answer-print was approved, a duplicate negative was made from which multiple copies could be printed. This procedure was followed for each of the ten films in the series. Understandably, all of the films were in various stages of production simultaneously. Although no attempt was made to follow every film through to completion before a subsequent one was begun, several films were ready for viewing before work began on others in the series.

Because of this schedule, copies of certain films were made available for use in various schools prior to the field-testing experience. This gave the project staff immediately continuous feedback on the effectiveness of approaches to topics, filming techniques, and depth of content of the films. Adjustments were made accordingly, sometimes in the work prints, and always in the filming of subsequent parts of the series.

The project called for the production of manuals to complement the films. These manuals, to be used by teachers in the course-on-film, established purposes for viewing, incorporated exposition not possible in the films themselves, included samples of materials used in the

filmes lessons, stimulated reaction to each film, suggested activities through which the viewer might apply the principles and procedures suggested in the films, and included the narrations from the films for easy reference.

Personnel associated with the project conferred on the substance of each manual and developed an outline from which the first draft was written. When this draft had been revised and final-edited, it was mimeographed. This version was then used in the field testing of the series.

Field Testing

Four secondary schools in the Syracuse area and two secondary schools at some distance from Syracuse field-tested the series. The schools represented a variety of social-economic levels as well as various degrees of rural, urban, suburban influence. The design of the field testing was to use the film series as a basis for an in-service course in each of the six participating schools. The course was conducted by the local reading consultant. The consultants then participated in a seminar conducted by the project coordinator. In this seminar they previewed the films and manuals and discussed various methods to be employed when using the films as a basis for a course.

The reading consultants from the two districts at some distance from Syracuse did not participate in the seminar. This was an effort to control the field testing and judge the extent to which the seminar for the instructors created a difference in the response of teachers in the program and ultimately affected the value of the course.

Upon completion of the course in each school, a questionnaire was distributed to the participants to secure their reactions to the content and design of the films and the manuals. Based on these reactions, the recommendations of the consultants conducting the field testing, and the observations of the project staff, the manuals were extensively revised and two of the films were modified slightly.

Dissemination

The product and processes related to the Demonstration Center were made available to interested personnel throughout the country in three ways:

(1) visitations to the center;

(2) an invitational conference;

(3) distribution of the films.

Visitors came to the Demonstration Center to observe classes in which teachers were incorporating reading instruction as part of their course offering. They observed developmental and corrective reading classes and consulted with the project staff about their own reading programs. These personnel represented all levels of educational responsibility: state supervisors; college and university educators; local school administrators, supervisors, and teachers; reading teachers and subject area specialists. Their purposes were the same: to observe secondary reading instruction taking place in a regular school setting, conducted by regular classroom teachers as a result of a local in-service education program.

An invitational conference was held May 20-21, 1966, the third year of the project. Over three hundred educators from fourteen states responded to the invitation to view the films, hear reports

of the field testing experience, and participate in discussions about reading instruction at the secondary level. The following specialists presented papers and reports related to the theme:

"What We Have Learned---:"

"...About Secondary Reading Through the Demonstration Center"

Margaret J. Early, Associate Director of the Reading Center;

"...About Secondary Reading to Challenge the Profession"

Olive S. Niles, Director of Reading, Springfield, Massachusetts Public Schools;

"...About School Centered Research Through the Demonstration Center"

William D. Sheldon, Director of the Reading Center;

"...To Challenge the Profession"

Edward G. Summers, Indiana University;

"Ideas Old and New About the Teaching of Reading"

Oscar M. Haugh, University of Kansas;

"What We Have Learned About In-service Education---"

"...Through the Demonstration Center"

Harold L. Herber, Coordinator of the Demonstration Center;

"...To Challenge the Profession"

Edna W. Morgan, New York State Education Department;

"Guidelines and New Directions in Secondary Reading Instruction"

James R. Squire, National Council of Teachers of English.

The consultants who had led the course in their schools as part of the field testing, reported on their experiences and responded to questions. All of the films were screened, illustrative samples of manuals were viewed, and literature describing the series was distributed.

RESULTS

Demonstration Center

The first result of the project was that a Demonstration Center was established. Visitors from public schools and universities from fifteen states and two foreign countries visited the center to observe reading instruction both in reading classes and content classes.

Visitors carried away new ideas related to in-service education and to methods of teaching reading at the secondary level. Personnel from the Center, including teachers, were called upon to serve as consultants to school districts in surrounding communities that planned to incorporate similar procedures in their own instructional programs. It is a matter of record that many teachers who visited the Demonstration Center subsequently made adjustments in their own instruction to incorporate procedures they had observed. Those in supervisory capacities returned to their schools to acquaint their teachers with procedures they had observed. In numerous instances, supervisors subsequently had considerable influence on classroom teachers in their own districts and observed a change in teaching procedures so as to give needed attention to students' reading achievement in various subject areas. In these cases, then, even though the entire reading program of a school may not have been appreciably affected, change in the instructional procedures of specific teachers could be attributed to the Demonstration Center.

Film and Manuals

This project resulted in the production of ten motion picture films, directed to secondary school teachers, on the topic of reading

instruction. The number and title of each film is given below along with a description of its content.

Film 1: "Organizing the Reading Program": Procedures are suggested for initiating secondary reading programs. A survey of needs, personnel required, alternative programs, and answers to typical questions are explored.

Film 2: "Analyzing Reading Achievement": A social studies teacher compares standardized test scores with results from an informal test of reading skills related to her subject. She then plans instruction which takes into account her students' reading abilities.

Film 3: "The Handicapped Reader": Are poor readers deficient in specific skills, or lacking in general ability? This film shows details in the diagnosis of two students and then looks at ways of meeting their needs.

Film 4: "Vocabulary Development": What can teachers do to help students improve their reading vocabulary? Instructional techniques are suggested in this film and teachers are shown applying them in various subject areas.

Film 5: "Developing Comprehension Skills": A reading teacher demonstrates one way of teaching how to read for main ideas. Then a history teacher helps students to apply a similar technique in reading their assigned text.

Film 6: "Reading to Remember": The study techniques of good students are examined, and teaching procedures for developing study skills are illustrated.

Film 7: "The Library and the Reading Program": This film shows how the library and librarian contribute to an all-school reading program. However, the emphasis is on ways in which teachers develop research skills and use of the library.

Film 8: "Developing Skills for Reading Literature": Specific skills needed for reading imaginative literature are shown being developed in brief excerpts from lessons at various grade levels.

Film 9: "Efficient Reading": This film examines various pressure devices aimed at increasing rate of reading and debates their use in advanced reading classes.

Film 10: "Report from the Reading Coordinator": This film recapitulates the role of the coordinator, and shows how various staff members contribute to a whole-school program.

The field testing experience made it clear that any in-service course based on these films would require a minimum of fifteen sessions. The manuals were revised and there are now fifteen, one for each session. The title for each manual is listed below with the number and title of the film which it is designed to accompany.

Session 1: "Organizing a Reading Program," the purposes, responsibilities, and procedures for organizing a secondary reading program": (Film 1: "Organizing the Reading Program").

Session 2: "Analyzing Reading Achievement," using the standardized test to analyze students' reading achievement. (Film 2: "Analyzing Reading Achievement")

Session 3: "The Handicapped Reader," procedures for identifying and providing for the reading needs of the handicapped readers identified in Session 2. (Film 3: "The Handicapped Reader")

Session 4: "Analyzing Vocabulary Skills," using the informal inventory to analyze students' vocabulary skills. (Film 2: "Analyzing Reading Achievement")

Session 5: "Teaching Word Meanings and Word Meaning Skills," suggestions for selecting and teaching the technical vocabulary essential to various subjects. (Film 4: "Vocabulary Development")

Session 6: "Reinforcing and Extending Word Meaning," techniques for reinforcement and expansion of students' vocabulary. (Film 4: "Vocabulary Development")

Session 7: "Analyzing Comprehension Skills," using the informal inventory to analyze comprehension skills of students in various subject areas. (Film 2: "Analyzing Reading Achievement")

Session 8: "Comprehension of Expository Material," suggestions for identifying and teaching the expository comprehension skills essential to various subjects. (Film 5: "Developing Comprehension Skills")

Session 9: "Comprehension of Narrative Material," suggestions for identifying and teaching narrative comprehension skills essential to various subjects; implications concerning oral reading. (Film 8: "Developing Skills for Reading Literature")

Session 10: "Guiding Reading Achievement," suggestions for reinforcing comprehension skills related to various subject areas. (No film shown)

Session 11: "Reading to Remember - I," examination of teacher direction and students' self-direction in helping students to remember what they have read. (Film 6: "Reading to Remember")

Session 12: "Reading to Remember - II," examination of organizational skills and their importance for remembering and using what has been read. (Film 6: "Reading to Remember")

Session 13: "The Library and the Reading Program" exploration of the library's function in an effective secondary school reading program. (Film 7: "The Library and the Reading Program")

Session 14: "Independence in Learning," discussion of the advanced reading class and ways to increase rate of comprehension and independence in learning. (Film 9: "Efficient Reading")

Session 15: "Resources for Reading Programs," the contributions of various resource people to the reading program. (Film 10: "Report from the Reading Coordinator")

DISCUSSION

Creating a Demonstration Center in a local school was extremely valuable for the school itself. Teachers benefited from having personnel from the project immediately available for consultation and assistance. Materials were readily evaluated, teaching techniques were discussed, demonstrated, and observed, and there was a constant exchange of ideas between the personnel of the school and the project. Though no general data were collected to determine the effectiveness of the center on student achievement, Appendix A includes the report of a study conducted in the physics program. It shows that methods and materials developed through the project were instrumental in bringing about significant differences in achievement as compared with more traditional procedures. Instructional procedures similar to those which produced the significant change in physics were incorporated in many subject areas and grade levels by teachers who had participated in the in-service seminars and courses. Though formal evaluations were not conducted, subjective evidence and evaluations by teachers indicate that student achievement was at a higher level than previously.

Two factors emerged as significant contributions to the success of the Demonstration Center. One is that a basic reading program had already been established so that the junior and senior high school teachers were aware of the value of reading instruction in reading classes and were also aware of the fact that instruction was needed for all students beyond that which could be given through reading classes. Thus an attitude and mental set had been established which

made it easier to enlarge the program to include all subject area teachers. With their readiness, they were much more receptive to any changes necessary in their teaching to allow for emphasis on subject-related reading and study skills. By implication this suggests that an early step in establishing an all-school reading program is to organize strong reading classes which make evident to the faculty that direct instruction in reading is valuable but is not adequate to serve the needs of all students, as their needs relate to successful reading in each of the subject areas.

There is another factor of significance which contributed to the success of the Demonstration Center. This was the placing of an experienced person in the Center to give leadership to the program. The program moved much more rapidly because the project coordinator had had experience in working with subject area teachers and in organizing programs of this type. He was able to capitalize on the teachers' awareness of the need for teaching instruction in content areas and their willingness to try out ideas if they were practical. Thus in the very first months of the program the coordinator was able to initiate contact with teachers and enjoy sufficient success with them that general interest was aroused and the initial seminars formed. Follow-up activity with the teachers brought results similar to those recorded in the physics experiment. Had the coordinator not had this previous experience, the first year of the project would have been spent initiating contact with the faculty and endeavoring to find ways to capitalize on the interests that had already been established through the basic reading program.

By implication this factor suggests that reading personnel who wish to work at the secondary level should have a background of experience in working with content teachers and establishing programs of this type. This suggests that formal professional training should go beyond classroom teaching experience and the analysis of learning theory as applied to reading achievement. It should also incorporate supervised experience in working with classroom teachers of various subject areas as well as supervised experience in school districts which are in the process of establishing all-school reading programs. Armed with this kind of experience and training, reading personnel will be able to move into schools and establish all-school programs with a minimum of effort, not spending their first years trying to discover how to do what they were hired to do. This experience implies that Demonstration Centers can be used not only to influence instruction in the school in which the Center is located or influence instruction in those schools from which visitors come, but it also can serve as a location for training reading personnel in the skills, appreciations, and understandings essential for successful work with subject area teachers.

Film Production

The production of ten films for teacher education within a two-year period (allowing one year for writing the manuals, field testing, launching the series, and revising the manuals) strained the facilities of the University film service and of the school and

University staff directly associated with the project. The time schedule was no doubt too ambitious; yet the urgent needs in secondary school reading dictated an accelerated program. The product seems not to have suffered as a consequence. Results of the field-testing and informal reactions to the films, which have now been exhibited at many conferences and in a variety of school settings, suggest that they fulfill their purposes in a more than adequate fashion.

A second error recognized by hindsight is related to the length of the films. Originally, it was believed that thirty minutes would be optimum screening time. As the Reading Staff became more familiar with the film medium, it became apparent that screen time is different from "real" time. More can be said on film than in a lecture in the same amount of time. Consequently, the films were rigorously edited and became shorter as the series progressed. This compression improved the films artistically but introduced a dimension we had not anticipated as we planned for the use of the films in an in-service course. In the field testing, we discovered that the compactness of the medium was at times bewildering to the teachers. They complained of "getting too much too fast," and post-viewing discussion did indeed reveal that many could not fully assimilate ideas presented on the screen. As a result, the ten-session course was expanded to fifteen sessions, with five additional manuals provided so that concepts could be expanded and deepened through discussion and "assignments," and so that certain films could be shown more than once.

Our experience in making these films and the reception they have had to date strengthens our conviction in the usefulness of films in teacher education. Obviously, this series of black-and-white films

is limited in many ways. These films and manuals serve an immediate need, but their life expectancy will certainly be no longer than that of the professional text which, typically, is revised every five years. Already, questions of revision and/or expansion have occurred to our staff.

We see several possibilities. One would be to select from the current films much shorter segments and to repackage them as illustrations for lecture-discussions in college (and off-campus) classrooms. This would mean converting the manuals, which are intended now as work-texts for teachers, into lecture-scripts and lesson plans for the course instructors.

A variation on this plan would be to use the animated sequences especially as projectuals and to select stills for conversion to film-strips. Lacking the movement of the films, as well as the synchronized sound which lends realism to the film, the projectuals and filmstrips would nevertheless permit greater flexibility in the hands of an experienced instructor.

Still more attractive is the idea of a completely new series, probably consisting of many more titles and much shorter individual films. In fact, the single-concept film, with sound synchronization, and adaptable to large-group or individual viewing, would seem an especially useful tool for teaching methods courses.

Professional Growth

One of the inevitable side-effects of a Demonstration Center is the professional growth of the staff. The staff of the Reading and Language Arts Center has experienced this growth in a number of ways, two of which are singled out for comment here. In the development of the reading program at Jamesville-DeWitt as a Demonstration Center,

much was learned about adapting recommended classroom procedures to the methods course itself. Teachers, like students, learn by doing, and the ideas from the methods course which were most likely to be implementedin the teachers' own classrooms were those they had experienced, not merely observed or read or heard about. Group dynamics tested with teachers in the school setting can be incorporated, we believe, in on-campus courses.

Experiences in the Demonstration Center have led directly to two new offerings in the Syracuse University reading program. One of these is a course devoted to examining methods, materials, and research in the teaching of reading in the content fields. The other is a program for training reading supervisors, especially those who will work closely with content teachers in secondary schools.

As a result of the Demonstration Center, modifications have taken place in the service aspect of the Reading Center's many functions. The films have permitted a large number of schools in the Central New York area to broach the problems of in-service education in reading for secondary teachers without the direct involvement of Reading Center personnel who have consequently been free to devote more time to research, teaching, and professional writing.

CONCLUSIONS AND IMPLICATIONS

First, the Demonstration Center at Jamesville-DeWitt Junior-Senior High School provided a live demonstration of a secondary reading program which is being extended to all content areas if not all classrooms. Second, the school provided the setting for the production of ten films on methods of teaching reading. Third, the project staff created a 15-session course in methods of reading and study in the secondary school, using the ten films as a core. This course, field-tested in the spring of 1966 as a 10-session offering, was revised and expanded in the light of reactions of teachers and supervisors to the films and first-draft manuals.

An outgrowth of the demonstration project was the Invitational Conference on Reading Instruction in Secondary Schools. Over 300 educators gathered to view the films, hear reports on the field testing of the series, and participate in detailed discussions of reading instruction at the secondary level.

Through those who attended the Invitational Conference and the organizations they represent, information about the film series spread quickly throughout the country. To date films have been sent to 25 institutions on a preview basis, and to 44 on a rental basis. Over 30 institutions and organizations have purchased the complete series.

Several important implications emerge from this experience. First, the close cooperation between local school and university personnel is of considerable professional value to both. Teachers in the schools benefit from constant awareness concerning latest materials

and methods through university instructors. The latter constantly judge and adjust their ideas about instruction against the demands for practicality imposed by the former.

Second, a Demonstration Center can serve as the focal point for an internship program for potential reading consultants. They would directly experience the process of turning theory into practice and would become well prepared for working out their own programs.

Third, teacher-education programs emphasizing reading instruction in secondary schools are very popular. It seems clear, consequently that more of these programs are needed to meet the growing interest and concern. The reception of the films produced in this project suggests that other series should be produced to meet the need.

Fourth, the "pilot-study" aspect of methods courses on film is now completed and their value is clear. A new project should now be pursued, funded by a fully adequate budget, to produce a film series which would capitalize on all that was learned through this project.

SUMMARY

A Demonstration Center was organized in the Jamesville-DeWitt Junior-Senior High School, DeWitt, New York in cooperation with the Reading and Language Arts Center at Syracuse University under the sponsorship of the Project English Program, U.S.O.E. The Center was in operation for three years, September, 1963 through June, 1966.

Two purposes were served by the Center. First, an all-school reading program was organized and available for visitors to observe. These visitors were able to carry back to their own schools or colleges profitable information about reading instruction and/or cooperative effort and mutual benefits to be derived from interaction between public schools and universities.

Second, a filmed in-service course on Reading Instruction in Secondary Schools was produced, field tested and revised. Specifically ten motion pictures were made: 1) Organizing Reading Programs; 2) Analyzing Reading Achievement; 3) The Handicapped Reader; 4) Vocabulary Development; 5) Developing Comprehension Skills; 6) Reading to Remember; 7) The Library and the Reading Program; 8) Developing Skills for Reading Literature; 9) Efficient Reading; 10) Report from the Reading Coordinator. Manuals were produced to accompany the films, one manual for each of the fifteen sessions of the in-service course.

The film series has been well received and is now being used throughout the United States in many universities as well as in local schools. This reception of the series suggests a need for more

of such programs; cooperative efforts between local schools and university personnel; production of practical in-service education programs for use in local schools.

APPENDIX A

TEACHING READING AND PHYSICS SIMULTANEOUSLY

by

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DeWitt, New York

Who would ever think that these students could have a reading problem: above average ability; capable of high scores on college boards; enrolled in honors courses. Prima facie evidence would indicate that they have good control over basic reading skills. But the consternation they and their teachers experience belies the evidence.

It is within the broad framework of reading--reading as a thinking process--that these students need instruction. Rather than reading actively at maximum efficiency, they often read passively, inefficiently, and with wasted motion. Years of training have developed their efficiency in identifying, recording, memorizing, and repeating facts. Unfortunately, however, few of these students have had training in formulating and applying concepts, because most teachers wrongly assume the students already possess these skills. This lack of training handicaps the students' performance in advanced courses.

The Project English Demonstration Center at DeWitt, New York has been organized to show that reading instruction can be part of the course content in all subject areas; providing for students at all ability, achievement, and grade levels.

This paper reports the results of such instruction given to bright students in an advanced (PSSC) physics course.

The Problem

Students learn physics inductively in the new physics curriculum. They conduct experiments and record their observations; observe teacher-conducted demonstrations related to the laboratory experiments; refine their generalizations; finally read the text which expands the principles and explains the observed phenomena.

Students at the Center experienced difficulty in developing and handling the concepts in the text. Asked to identify, list, and memorize the facts, they had no trouble. However, asked to formulate the concepts, showing their interrelationships applications and implications, these students performed superficially.

The problem was to design materials which would guide the students in developing essential concepts as they read the text, maintaining a proper balance between skills and content.

The Procedure

A study guide was constructed to accompany the reading of the chapter of "Wave Mechanics." It assisted the students in formulating and relating the concepts. It did not require them to memorize facts or to list the concepts. It required them to use the concepts in solving problems posed in the guide. The students had to think abstractly, developing concept relationships not actually stated in the text.

Two physics teachers had expressed a desire to participate in the experiment. One taught the experimental class; the other taught the control. There were no significant differences between the classes either in ability of in reading achievement.

A standardized test measuring understanding of the content was given to both classes at the end of the unit. The teacher of the control group subsequently repeated the textbook phase of the unit so he could observe the effect of the procedures.

The Findings

The teachers reported that students formulated the concepts and, encountering their fundamental meanings, handled them in an abstract manner not previously experienced. The teachers reported a great deal of enthusiasm generated by the grouping process. Students had an opportunity to present and exchange their ideas and were actively engaged in "Handling" the concepts.

The teachers concluded that this procedure--method and materials--was a time saver. They needed to devote much less time to full-class instruction because most concepts were developed and reinforced in the group activity.

The control-group teacher felt that when his students used the study guides and participated in the group discussions, they developed an understanding of the concepts they had previously missed.

A "t" test of significance showed that the experimental group scored significantly higher on the standardized test, at the .05 level. (cf. Table I).

Summary and Conclusions

Though this study had limitations due to size of sample and lack of pre-test on content, several valid conclusions can be drawn:

1. The students were enthused over the materials and the learning process, becoming--consistent with the inductive method--active participants in learning rather than passive observers.

2. The materials and process significantly improved students' learning and greatly facilitated the teaching of the course.

3. Above average students in physics classes do benefit from instruction in reading when it is given simultaneously with subject content by regular classroom teachers.

There is more to reading than identifying and memorizing facts. Concepts must be developed and applied. When guidance is given, students can develop and apply them.

TABLE I

	Intelligence	Reading	Physics
Experimental Group	I.Q. Score - 100	Raw Score	Raw Score
N	26.00	26.00	26.00
ΣX	584.00	2,103.00	635.00
$\bar{X}$	(1) 22.21	80.23	24.11
$(\Sigma X)^2$	341,056.00	4,422,609.00	403,225.00
ΣX^2	16,444.00	171,261.00	16,581.00
Σx^2	3,326.86	1,160.91	1,072.83
Control Group			
N	18.00	18.00	18.00
ΣX	359.00	1,403.00	355.00
$\bar{X}$	(1) 19.17	77.17	19.13
$(\Sigma X)^2$	128,881.00	1,968,409.00	126,025.00
ΣX^2	9,335.00	110,221.00	8,123.00
Σx^2	2,174.99	864.99	1,121.93
"t" score (.05 level = 2.085)	.85	1.91	2.38
	.85	1.91	2.38